

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

### WRITTEN OPINION (PCT Rule 66)

To:

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EINGEGANGEN

11. Juli 2005

TBK - PATENT

Date of mailing  
(day/month/year)

11.07.2005

Applicant's or agent's file reference  
WO 38173

**REPLY DUE**

**within 3 month(s)**  
from the above date of mailing

International application No.  
PCT/EP 03/08936

International filing date (day/month/year)  
12.08.2003

Priority date (day/month/year)  
12.08.2003

International Patent Classification (IPC) or both national classification and IPC  
F01D17/16

Applicant  
HONEYWELL INTERNATIONAL INC.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby **invited to reply** to this opinion.

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also:** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 12.12.2005

Final date: 17.10.05 not extendable

WU 17.8. ✓

Name and mailing address of the international preliminary examining authority:



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**WRITTEN OPINION**

International application No. PCT/EP 03/08936

**I. Basis of the opinion**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

**Description, Pages**

1-8 as originally filed

**Claims, Numbers**

1-8 received on 10.03.2005 with letter of 10.03.2005

**Drawings, Sheets**

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

6. Additional observations, if necessary:

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1,5
Inventive step (IS)	Claims	1-8
Industrial applicability (IA)	Claims	

**2. Citations and explanations****see separate sheet**

**WRITTEN OPINION  
SEPARATE SHEET**

International application No. PCT/EP 03/08936

**Re Item V****Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: DE 14 28 171 A (GUTEHOFFNUNGSHUETTE STERKRADE) 23 January 1969

D2: DE 199 55 510 C (DAIMLER CHRYSLER AG) 21 September 2000

D3: GB 545 587 A (JAMES RUSSELL KENNEDY) 3 June 1942

D4: US 3 038 698 A (TROYER WILLIAM J) 12 June 1962

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

2.1 The document D1 discloses (the references in parentheses applying to this document):

A variable nozzle device (p.1, l. 1-5) comprising an annular nozzle passage formed by a gap between two opposing wall members (11,12);  
and a vane (10) extending in said nozzle passage and being rotatable supported by a shaft (16,17) attached to said vane (p.3, §3, l. 3-4), wherein  
said vane is formed by a sheet metal contour (p.1, §1, l. 7) wherein at least a portion of said shaft (16,17) protrudes beyond an edge of said sheet metal contour by a predetermined amount so as to form a stepped portion contactable to one of said opposing wall members thereby separating said sheet metal contour from said one of said opposing wall members (figure 2; p.1, §3).

2.2 In document D2, "Leitschaufel 11" can be regarded as a sheet metal contour. Therefore, document D2 (particularly figures 1 and 3) also discloses the combination of features of claim 1.

2.3 The subject-matter of claim 1 is therefore not new.

3. It is noted that the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT in view of document D3.

3.1 The subject-matter of claim 1 only differs from the variable nozzle device known from D3 in that the shaft supporting the vane protrudes beyond an edge the vane.

3.2 The problem solved by the present invention in view of document D3 may therefore be regarded as minimizing the frictional loss between vane and wall member and avoiding the sticking phenomenon (description, p. 3, §5).

3.3 In D3, it is not explicitly mentioned how a clearance between the vane and the wall member is maintained. Making the shaft protrude beyond the edges of the vane is however well known in the prior art (see e.g. D2 (figures 1-3) and D4 (col. 2, l. 43-58)) for providing the same advantages as in the present application. The skilled person would therefore regard it as a normal design option to include this feature in the variable nozzle device described in document D3 in order to solve the problem posed.

3.4 The subject-matter of claim 1 therefore lacks an inventive step in view of document D3.

4. Dependent claims 2-8 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, since all the additional features are known from or rendered obvious by D1-D4, or fall within the scope of customary practice of a person skilled in the art, see e.g.:

- claim 2: D3, figure 10
- claims 3 and 4: D4, figure 12; col. 3, l. 3-20
- claim 5: D1, p.3, §3